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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,774	03/31/2004	Mun-Choon Chan	Chan 5-1-22-5-29	5203
46850	7590	11/06/2006	EXAMINER	
WENDELL, ANDREW				
ART UNIT		PAPER NUMBER		
2618				

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/813,774	CHAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew Wendell	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 August 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 and 14 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1,9 and 10 is/are allowed.
- 6) Claim(s) 12 and 14 is/are rejected.
- 7) Claim(s) 2-8 and 11 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____.                                     |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____.                         |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/11/2006 has been entered.

### ***Claim Objections***

1. Claims 2-8 and 11 are objected to because of the following informalities: "The invention" should be changed to "The method". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lachtar et al. (US Pat Appl# 2003/0125039) in view of Sharma et al. (US Pat# 6,069,871).

Regarding claim 12, Lachtar et al. multi-carrier traffic allocation enhancements teaches monitoring for a message of a connection between a user element and a network 802 (Fig. 8A and Section 0031); and allocating, if the message is a call set-up message, one of the processors to the connection in accordance with a load-balancing

algorithm based on a call-context amount per CPU load-balancing algorithm (Sections 0031-0042) wherein the call-context amount per CPU load-balancing algorithm comprises determining an average number of calls per processor 804 and 806 (Fig. 8A, Sections 0031, 0032 and 0041), weighting the average number of calls per processor by a total call capacity of the processor (Sections 0031, 0032 and 0041 and Sharma et al. reference); and selecting the processor with the smallest weighted call average 850 (Fig. 8D, the highest NEC value means it has the most capacity and therefore it would have the smallest weighted call average). Lachtar et al. fails to explain the details of the NEC (net excess capacity) properties.

Sharma et al. traffic allocation and dynamic load balancing in a multiple carrier cellular wireless communication system teaches the details of the NEC (net excess capacity). The NEC covers the details of a call-context amount per CPU load-balancing (Col. 8 lines 9-59).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate details of the NEC (net excess capacity) properties as taught by Sharma et al. into Lachtar et al. multi-carrier traffic allocation enhancements in order to maximize carrier traffic for a given blocking probability (Col. 2 lines 3-15).

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang (US Pat Appl# 2003/0072282) in view of Agin (US Pat Appl# 2002/0119784) and further in view of Hashem et al. (US Pat# 6,748,222).

Regarding claim 14, Liang's code division multiple access downlink receiver teaches monitoring for an allocation message of a connection between a user element and a network (Section 0098, the mobile station will contact the base station if in its area to get information and/or use the base station for a call-set up); and wherein the set of spreading codes depends on the number of legs for soft-handover/soft-handoff of the connection (Section 0098). Liang fails to teach monitoring for a message and allocating a set of spreading codes with the same factor.

Agin's managing processing resources in a mobile radio system teaches allocating a set of spreading codes to the connection with the same spreading factor (Section 0026 and 0190).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate spreading codes to the connection with the same spreading factor as taught by Agin into Liang's set of spreading codes dependent on the number of legs for soft-handover/soft-handoff of the connection in order to save costs in adding more base stations and prevent quality being decreased (Section 0012 and 0014).

Liang and Agin both fail to clearly teach monitoring for a message.

Liang does teach about monitoring for a message but Hashem et al. will help clarify the limitation of the claim. Hashem et al. system for providing load-balanced communication teaches means for monitoring for a message of a connection between a user element and a network Step S116 (Fig. 7).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate monitoring for a message as taught by Hashem et al. into spreading codes to the connection with the same spreading factor as taught by Liang in view of Agin set of spreading codes dependent on the number of legs for soft-handover/soft-handoff of the connection in order to diversify the load of the base station which does not effect the coverage area of the base station (Col. 2 lines 27-31).

***Response to Arguments***

Applicant's Remark	Examiner's Response
"Just as with the Examiner's citations to Lachtar, none of the forgoing portion of Sharma even mentions the determination of an average number of calls per processor, let alone weighting the average number of calls per process or by a total call capacity of the processor."	In Lachtar it clearly states in section 0031, "the BSC serving the specific CDMA cell sends <b>capacity estimate</b> requests to all BTS's associated with the cell." The estimate is done by NEC algorithm (Section 0032). Sharma shows the NEC algorithm contains an average number of calls per processor ( $N_{sub\ r}$ , $N_{sub\ f}$ , $N_{sub\ c}$ , and $N_{sub\ w}$ ) and weighting the average number of calls per process by a total call capacity of the processor (NEC calculating EFC, ERC, (EFC) sub bt, (ERC) sub bt, ECE, and EWC). These

	calculations read on the claim limitation since it is weighing and averaging the capacity.
"Clearly, none of the foregoing portion of Liang teaches the use of a set of spreading codes that depends on the number of legs for soft-handover/soft-handoff of the connection."	The Examiner could not understand how "legs" was defined in the specification. The examiner reads legs as the number of different base stations transmitting to a mobile phone, which Liang reference teaches.

***Allowable Subject Matter***

1. Claims 1-11 are allowable over the cited prior art.

Regarding independent claim 9, Regarding claim 9, Hashem et al. (US Pat# 6,748,222) system for providing load-balanced communication teaches means for monitoring for a message of a connection between a user element and a network Step S116 (Fig. 7); means for determining whether the message is a call set-up message S116 (Fig. 7) or an allocation message S118 and S120 (Fig. 7); means for allocating if the message is a call set-up message (Communication initialization, Col. 9 lines 56-63), one of the processors to the connection in accordance with a load balancing algorithm (Col. 2 lines 35-62 and Col. 5 line 62-Col. 7 line 6).

Agin (US Pat Pub# 2002/0119784) managing processing resources in a mobile radio system teaches if the message is an allocation message, a set of spreading codes to the connection with the same spreading factor (Section 0026 and 0190).

3<sup>rd</sup> Generation Partnership Project technical specification teaches means for determining whether the message is a call set-up message or an allocation message (pages 17-20). Note, this teaches that the base station will determine the call set-up message or based on the priority level of requested radio access bearer a decision on resource allocation.

The prior art of art fails to teach a network comprising a radio network controller, the radio network controller comprising means for monitoring for a message of a connection between a user element and a network; means for determining whether the message is a call set-up message from the user element or an allocation message from one of the processors; means for allocating one of the processors to the connection in accordance with a load balancing algorithm, if the message is an allocation message; and means for allocating a set of spreading codes to the connection with the same spreading factor and sending the set of spreading codes to a call-processing application on the processor that sent the allocation message, if the message is an allocation message.

Applicant remarks made on 8/11/2006 further support examiner's reason for allowance.

Regarding independent claim 1, method claim 1 is allowable for the same reason as apparatus independent claim 9 since the recited elements would perform the claimed steps.

The prior art of record fails to teach the claimed subject matter as claimed and substantially connected in claims 1-8 and 11. Note, claims 2-8 and 11 are objected to for minor informalities.

Regarding independent claim 10, computer-readable medium claim 10 is allowable for the same reason as apparatus independent claim 9 since the recited elements would perform the claimed steps.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Andrew Wendell*  
Andrew Wendell  
Examiner  
Art Unit 2618

10/23/2006

*Quochien B. Vuong* 10/27/06

QUOCHIEN B. VUONG  
PRIMARY EXAMINER